

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Confirmation No.: <b>6067</b>
	)	
<b>Nabors et al.</b>	)	Art Unit: <b>1616</b>
	)	
Serial No.: <b>10/517,732</b>	)	Examiner: <b>Pryor, A.</b>
	)	
Filed: <b>June 09, 2005</b>	)	Syngenta Docket No.: <b>70065</b>

For: **HERBICIDAL COMPOSITION**

**BRIEF ON APPEAL**

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**CERTIFICATE OF MAILING**

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/James D. Withers/

James D. Withers - Reg. No. 40,376

Dear Sir:

This is an appeal from the final Office Action mailed on July 08, 2009 rejecting claims 1-2, 4, 9, 11-16, 18-25 and 41.

A Notice of Appeal in this application was filed on November 06, 2009, and was received in the USPTO on November 06, 2009.

The \$540.00 fee required under 37 CFR § 41.20(b)(2) for filing an appeal brief has been paid via an electronic fund transfer executed during the filing process of the present brief. The \$490.00 two-month extension of time fee has also been paid via an electronic fund transfer executed during the filing process of the present brief.

Appellants request the opportunity for a personal appearance before the Board of Appeals to argue the issues of this appeal. The fee for the personal appearance will be timely paid upon receipt of the Examiner's Answer.

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**REAL PARTY IN INTEREST**

The real party in interest is Syngenta Crop Protection, Inc. of Greensboro, North Carolina.

**RELATED APPEALS AND INTERFERENCES**

The assignee, the assignee's legal representatives, and the Appellants submit that there are no related appeals or interferences that are directly affected by or have a bearing on the Board's decision in this appeal.

**STATUS OF CLAIMS**

Claims 1-2, 4, 9, 11-16, 18-25 and 41 are pending in the present application.

Previously presented claims 3, 5-8, 10, 17 and 26-40 have been canceled.

Claims 1-2, 4, 9, 11-16, 18-25 and 41 stand rejected. Each of rejected claims 1-2, 4, 9, 11-16, 18-25 and 41 has been appealed. A clean copy of the pending claims is attached in the Claims Appendix section below.

**STATUS OF AMENDMENTS**

No amendments have been filed after the final Office Action dated July 08, 2009.

Appellants note that the spelling of the term "stearyl alcohol" in claim 41 (i.e., misspelled as "stearyl alchol) needs to be corrected.

**SUMMARY OF CLAIMED SUBJECT MATTER**

The claims of the present invention are directed to herbicidal compositions, and methods of controlling undesired plant growth in the presence of cultivated plants.

In independent claim 1, the claimed herbicidal composition comprises (a) at least one acetamide selected from metolachlor and S-metolachlor (page 2, lines 10-14; page 4, lines 27-29); and (b) a synergistically active amount of a lipophilic additive comprising at least one member selected from the group consisting of stearic acid, stearyl alcohol, and hydrocarbon fluids containing greater than 50 wt.% paraffins (page 2, lines 6-8; page 2, lines 21-30).

In independent claim 41, the claimed herbicidal composition comprises (a) metolachlor or S-metolachlor (page 2, lines 10-14; page 4, lines 27-29); (b) a synergistically active amount of isoparaffinic hydrocarbon fluid, stearic acid or stearyl alcohol (page 2, lines 6-8; page 2, lines 21-30); and (c) benoxacor (page 6, lines 6-11).

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

The following grounds of rejection are to be reviewed on appeal:

1) Whether claims 1-2, 4, 9, 11-16, 18-25 and 41 are patentable under 35 U.S.C. §103(a) in view of U.S. Patent Publication No. 2003/0096708 to Agbaje et al. (hereinafter, "Agbaje") and select pages from The Agrochemicals Handbook, 3<sup>rd</sup> Edition, AO278/Aug. 91 (hereinafter, "the select pages from The Agrochemicals Handbook").

2) Whether claims 1-2, 4, 9, 11-14, 16 and 18-23 are patentable under 35 U.S.C. §103(a) in view of U.S. Patent No. 6,093,680 issued to Gillespie et al. (hereinafter, "Gillespie") and the select pages from The Agrochemicals Handbook.

### **ARGUMENTS**

#### **I. REJECTION UNDER 35 U.S.C. §103(a) IN VIEW OF AGBAJE AND THE AGROCHEMICALS HANDBOOK**

Claims 1-2, 4, 9, 11-16, 18-25 and 41 stand rejected under 35 U.S.C. §103(a) in view of the teaching of Agbaje in combination with the select pages from The Agrochemicals Handbook. Reversal of this rejection is respectfully requested for the reasons provided below.

In summary, the teaching of Agbaje in combination with the select pages from The Agrochemicals Handbook, taken alone or in view of the general state of the art, would not have motivated one skilled in the art to combine select ingredients in order to reproduce Appellants' claimed herbicidal compositions as recited in independent claims 1 and 41.

##### **A. CLAIMS 1, 4, 9, 11-16 AND 18-25**

Appellants' claimed invention, as embodied in independent claim 1, is directed to herbicidal compositions as described above, namely, herbicidal compositions comprising (a) at least one acetamide selected from metolachlor and S-metolachlor; and (b) a synergistically active amount of a lipophilic additive comprising at least one member selected from the group consisting of stearic acid, stearyl alcohol, and hydrocarbon fluids containing greater than 50 wt.% paraffins.

Claims 4, 9, 11-16 and 18-25 depend from independent claim 1 and recite additional claim features.

##### **1. Art Relied Upon By Examiner Prior**

###### **a. Agbaje**

The teaching of Agbaje is directed to aqueous herbicidal compositions comprising a water-soluble herbicide, a first etheramine surfactant, and a second diamine or triamine surfactant. See, for example, paragraph [0052]. The teaching of Agbaje discloses suitable water-soluble herbicides in paragraph [0097]; suitable first etheramine surfactants in paragraphs [0055] to [0072]; and suitable second diamine or triamine surfactants in paragraphs [0073] to [0091].

The teaching of Agbaje further discloses that additional components may be added to the above ingredients to form aqueous herbicidal compositions. For example, as

disclosed in paragraph [0099], two or more water-soluble herbicides may be used together in a given composition. Optional water-insoluble herbicides may also be incorporated into Agbaje's aqueous herbicidal compositions. A list of 192 optional water-insoluble herbicides is disclosed in paragraph [0107].

In paragraph [0109], the teaching of Agbaje discloses that other excipient ingredients may be optionally added to the above-mentioned composition components "so long as the herbicide loading, efficacy, cloud point and non-crystallization properties of the composition remain in accordance with the invention." A list of possible excipient ingredients is provided in paragraphs [0109] to [0113].

#### **b. The Select Pages From The Agrochemicals Handbook**

The Agrochemicals Handbook is a 1,500 page book that provides technical data, properties, and uses for hundreds, if not thousands, of herbicides. The select pages from The Agrochemicals Handbook provide technical data, properties, and uses for the herbicide metolachlor.

#### **2. The Obviousness Rejection Based on Agbaje and the Select Pages From The Agrochemicals Handbook**

Appellants respectfully submit that the proposed combination of the teaching of Agbaje with select pages from The Agrochemicals Handbook, taken alone or in view of the general state of the art, would not have motivated one skilled in the art to formulate a herbicidal composition comprising (a) at least one acetamide selected from metolachlor and S-metolachlor, and (b) a synergistically active amount of a lipophilic additive comprising at least one member selected from the group consisting of stearic acid, stearyl alcohol, and hydrocarbon fluids containing greater than 50 wt.% paraffins as recited in independent claim 1.

The teaching of Agbaje discloses the possibility of incorporating a water-insoluble herbicide into the disclosed aqueous herbicidal compositions comprising a water-soluble herbicide, a first etheramine surfactant, and a second diamine or triamine surfactant. See, paragraph [0107]. The teaching of Agbaje also provides a list of 192 optional water-insoluble herbicides that includes metolachlor and S-metolachlor. See, paragraph [0107]. However, the

teaching of Agbaje does not suggest to one skilled in the art to select metolachlor or S-metolachlor from the disclosed list of 192 optional water-insoluble herbicides, and subsequently combine the selected metolachlor or S-metolachlor with a synergistically active amount of a lipophilic additive as recited in Appellants' claim 1.

The July 08, 2009 final Office Action relies on the disclosure of ISOPAR<sup>TM</sup> M as a possible excipient in the Component Table on pages 18-19 of the teaching of Agbaje for support that the teaching of Agbaje suggests to one skilled in the art to formulate a herbicidal composition comprising (i) metolachlor and/or S-metolachlor, and (ii) ISOPAR<sup>TM</sup> M. Appellants disagree.

The teaching of Agbaje suggests the use of ISOPAR<sup>TM</sup> M in combination with potassium glyphosate (i.e., water-soluble herbicide), AFFILAN<sup>TM</sup> 3329 (i.e., an etheramine surfactant) and EXP-01A (i.e., an ether diamine surfactant) in Example 4, Table 4c. However, there is no suggestion in Example 4, or any other example, of adding metolachlor or S-metolachlor to the disclosed exemplary compositions of Agbaje. There simply is no suggestion anywhere in the teaching of Agbaje, including the examples, that would have guided one skilled in the art to (1) select metolachlor or S-metolachlor from the disclosed list of 192 optional water-insoluble herbicides, and then (2) combine the selected metolachlor or S-metolachlor with a synergistically active amount of a lipophilic additive.

The teaching of Agbaje in combination with the select pages from The Agrochemicals Handbook, and an understanding of the general state of the art, fails to recognize the unexpected, synergistic benefits associated with Appellants' claimed herbicidal compositions recited in independent claim 1. Appellants were the first to discover the unpredictable result of combining a synergistically active amount of a lipophilic additive with an acetamide herbicide, namely, that the addition of (b) a synergistically active amount of a lipophilic additive comprising at least one member selected from the group consisting of stearic acid, stearyl alcohol, and hydrocarbon fluids containing greater than 50 wt.% paraffins to a herbicidal composition comprising (a) at least one acetamide selected from metolachlor and S-metolachlor results in a herbicidal composition exhibiting unexpected, synergistic benefits as described in Appellants' original specification.

From page 3, line 27 to page 4, line 6 of Appellants' original specification,



Appellants specifically describe the unexpected, synergistic benefits of Appellants' discovery:

The lipophilic additives of the present invention are not generally thought of as herbicides. Therefore, it is entirely surprising that the combination of the acetamides with the lipophilic additives exceeds the expected action against the weeds to be controlled and thus in particular enhances the activity range of the acetamides in two respects: On the one hand, the concentration of the acetamide herbicide is reduced while the effectiveness of said herbicide is retained. On the other hand, the novel herbicidal composition also achieves a high degree of weed control where the single compounds have become no longer agriculturally effective at low concentrations. The consequence is a substantial broadening of the activity spectrum against weeds and an additional increase in the selectivity for the cultivated plants that is necessary and desirable in the event of unintentional overapplication of herbicide. In addition, the novel composition permits greater flexibility with respect to subsequent crops while retaining the excellent control of weeds in crops of cultivated plants.

As described above, the addition of a synergistically active amount of a lipophilic additive to an acetamide herbicide unexpectedly enables a reduction of the concentration of the acetamide herbicide in a given herbicidal composition while retaining the effectiveness of the given herbicidal composition to control weeds. Moreover, the addition of a synergistically active amount of a lipophilic additive to an acetamide herbicide unexpectedly broadens the activity spectrum of the resulting herbicidal composition against weeds when compared to herbicidal compositions containing only the acetamide herbicide.

The Examples in Appellants' original specification further demonstrate the synergistic effect of adding (b) a synergistically active amount of a lipophilic additive comprising at least one member selected from the group consisting of stearic acid, stearyl alcohol, and hydrocarbon fluids containing greater than 50 wt.% paraffins to (a) at least one acetamide selected from metolachlor and S-metolachlor. As shown in Table 2 on page 18, Examples 1-3 (each of which comprised S-metolachlor in combination with a synergistically active amount of a lipophilic additive) outperformed a standard herbicidal composition, as measured by greater herbicidal activity, even though the standard herbicidal composition contained a higher concentration of S-metolachlor compared to Examples 1-3.

The art of record, as well as the general state of the art, fails to teach or suggest Appellants' claimed invention as recited in Appellants' independent claim, as well as fails to

recognize the unexpected, synergistic benefits of Appellants' claimed invention as recited in Appellants' independent claim 1. For at least these reasons, the art of record fails to make obvious Appellants' claimed invention as recited in Appellants' independent claim 1.

In addition, regarding the proposed combination of the teaching of Agbaje with the select pages from The Agrochemicals Handbook, it should be noted that the teaching of Agbaje does not provide any guidance to one skilled in the art to (1) focus on metolachlor instead of the other 190+ disclosed water-insoluble herbicides, (2) seek out select pages of The Agrochemicals Handbook relating to metolachlor when The Agrochemicals Handbook contains 1500 pages relating to hundreds of herbicides, (3) utilize metolachlor or S-metolachlor instead of another herbicide within the hundreds of water-insoluble herbicides disclosed in The Agrochemicals Handbook, or (4) combine metolachlor or S-metolachlor with a synergistically active amount of a lipophilic additive. The only motivation to focus on metolachlor or S-metolachlor, and not the other 190+ water-insoluble herbicides disclosed in the teaching of Agbaje, has been gleaned from Appellants' own specification, not from the art of record. For at least this reason, Appellants respectfully submit that the proposed combination of the teaching of Agbaje with the select pages from The Agrochemicals Handbook is improper.

For at least the reasons given above, Appellants respectfully submit that a *prima facie* case of obviousness has not been made with regard to the rejection of independent claim 1 in view of the proposed combination of the teaching of Agbaje with the select pages from The Agrochemicals Handbook. Since claims 4, 9, 11-16 and 18-25 depend from independent claim 1 and recite additional claim features, the proposed combination of the teaching of Agbaje with the select pages from The Agrochemical Handbook also fails to make obvious Appellants' claimed invention as embodied in dependent claims 4, 9, 11-16 and 18-25. Accordingly, reversal of the rejection of claims 1, 4, 9, 11-16 and 18-25 under 35 U.S.C. §103(a) in view of the teaching of Agbaje in combination with the select pages from The Agrochemicals Handbook is respectfully requested.

## **B. CLAIM 2**

Appellants' claimed invention, as embodied in dependent claim 2, is directed to the herbicidal composition as recited in Appellants' independent claim 1, wherein the ratio

(wt/wt) of (a) (i.e., at least one acetamide selected from metolachlor and S-metolachlor) to (b) (i.e., a synergistically active amount of a lipophilic additive comprising at least one member selected from the group consisting of stearic acid, stearyl alcohol, and hydrocarbon fluids containing greater than 50 wt.% paraffins) is 90:1 to 1.5:1.

**1. The Obviousness Rejection Based on Agbaje and the Select Pages From The Agrochemicals Handbook**

As discussed above, the proposed combination of the teaching of Agbaje with the select pages from The Agrochemicals Handbook and a general understanding of the state of the art fails to make obvious Appellants' claimed invention as embodied in independent claim 1. In addition, the proposed combination of the teaching of Agbaje with the select pages from The Agrochemicals Handbook and a general understanding of the state of the art fails to teach or suggest the ratio of component (a) to component (b) as recited in Appellants' dependent claim 2.

For at least the reasons given above, Appellants respectfully submit that a *prima facie* case of obviousness has not been made with regard to the rejection of dependent claim 2 in view of the proposed combination of the teaching of Agbaje with the select pages from The Agrochemicals Handbook. Accordingly, reversal of the rejection of claim 2 under 35 U.S.C. §103(a) in view of the teaching of Agbaje in combination with the select pages from The Agrochemicals Handbook is respectfully requested.

**C. CLAIM 41**

Appellants' claimed invention, as embodied in independent claim 41, is directed to herbicidal compositions as described above, namely, herbicidal compositions comprising (a) metolachlor or S-metolachlor; (b) a synergistically active amount of isoparaffinic hydrocarbon fluid, stearic acid or stearyl alcohol; and (c) benoxacor.

**1. The Obviousness Rejection Based on Agbaje and the Select Pages From The Agrochemicals Handbook**

For reasons similar to those provided in Section I(A)(2) above, Appellants respectfully submit that the proposed combination of the teaching of Agbaje with select pages from The Agrochemicals Handbook, taken alone or in view of the general state of the art, would

not have motivated one skilled in the art to formulate a herbicidal composition comprising (a) metolachlor or S-metolachlor; (b) a synergistically active amount of isoparaffinic hydrocarbon fluid, stearic acid or stearyl alcohol; and (c) benoxacor as recited in independent claim 41.

In addition to not suggesting to one skilled in the art to select metolachlor or S-metolachlor from the disclosed list of 192 optional water-insoluble herbicides, and subsequently combine the selected metolachlor or S-metolachlor with a synergistically active amount of a lipophilic additive, the teaching of Agbaje also fails to suggest to one skilled in the art to combine the metolachlor or S-metolachlor and the synergistically active amount of a lipophilic additive with benoxacor as recited in Appellants' claim 41.

It should be noted that each of (i) the teaching of Agbaje and (ii) the select pages of The Agrochemicals Handbook fails to disclose, teach or suggest the use of benoxacor in herbicidal compositions. Even with this noted deficiency in both of the teaching of Agbaje and the select pages of The Agrochemicals Handbook, the July 08, 2009 final Office Action reaches the following conclusion as stated from page 2, line 25 to page 3, line 6:

It would have been obvious to one having ordinary skill in the art to arrive at an invention comprising glyphosate or salt thereof, metolachlor, Isopar and benoxacor as the safener. One would have been motivated to do so this since Agbaje et al. Suggest this combination of ingredients. Agbaje et al. broadly teach the inclusion of any safener, including the instant benoxacor safener, obvious.

Appellants disagree.

There simply is no suggestion in the teaching of Agbaje, the select pages of The Agrochemicals Handbook, or the general state of the art to combine (a) metolachlor or S-metolachlor; (b) a synergistically active amount of isoparaffinic hydrocarbon fluid, stearic acid or stearyl alcohol; and (c) benoxacor so as to form a herbicidal composition as recited in independent claim 41. The only motivation for forming such a herbicidal composition has been gleaned from Appellants' own specification, not from the art of record.

For at least the reasons given above, Appellants respectfully submit that a *prima facie* case of obviousness has not been made with regard to the rejection of independent claim 41 in view of the proposed combination of the teaching of Agbaje with the select pages from The Agrochemicals Handbook. Accordingly, reversal of the rejection of claim 41 under 35 U.S.C.

§103(a) in view of the teaching of Agbaje in combination with the select pages from The Agrochemicals Handbook is respectfully requested.

**II. REJECTION OF CLAIMS 1-2, 4, 9, 11-14, 16 AND 18-23 UNDER 35 U.S.C. §103(a) IN VIEW OF GILLESPIE AND THE AGROCHEMICALS HANDBOOK**

Claims 1-2, 4, 9, 11-14, 16 18-23 stand rejected under 35 U.S.C. §103(a) in view of the teaching of Gillespie in combination with the select pages from The Agrochemicals Handbook. Reversal of this rejection is respectfully requested for the reasons provided below.

In summary, the teaching of Gillespie in combination with the select pages from The Agrochemicals Handbook, taken alone or in view of the general state of the art, would not have motivated one skilled in the art to combine select ingredients in order to reproduce Appellants' claimed herbicidal compositions as recited in independent claim 1.

**A. CLAIMS 1, 4, 9, 11-14, 16 and 18-23**

As discussed above, Appellants' claimed invention, as embodied in independent claim 1, is directed to herbicidal compositions as described above, namely, herbicidal compositions comprising (a) at least one acetamide selected from metolachlor and S-metolachlor; and (b) a synergistically active amount of a lipophilic additive comprising at least one member selected from the group consisting of stearic acid, stearyl alcohol, and hydrocarbon fluids containing greater than 50 wt.% paraffins.

Claims 4, 9, 11-14, 16 and 18-23 depend from independent claim 1 and recite additional claim features.

**1. Art Relied Upon By Examiner Prior**

**a. Gillespie**

The teaching of Gillespie is directed to plant treatment compositions comprising (a) an exogenous chemical (e.g., a herbicide), (b) a first excipient having formula  $R^{14}\text{-CO-A-R}^{15}$ , wherein  $R^{14}$  is a hydrocarbyl group comprising about 5 to about 21 carbon atoms  $R^{15}$  is a hydrocarbyl group comprising 1 to about 14 carbon atoms, and the total number of carbon atoms in  $R^{14}$  and  $R^{15}$  is from about 11 to about 27, and A is O or NH; and (c) a second excipient comprising an amphiphilic substance having a critical packing parameter greater than 1/3.

Beginning in column 3, line 50, the teaching of Gillespie discloses a wide variety of exogenous chemicals that may be used in the disclosed plant treatment compositions with water-soluble exogenous chemicals being a preferred class of exogenous chemicals. From column 9, line 7 to column 10, line 65, the teaching of Gillespie discloses numerous classes of suitable exogenous chemicals including herbicides. The teaching of Gillespie discloses an exemplary list of herbicides in column 9, line 49 to column 10, line 44, which includes numerous classes of herbicides encompassing hundreds of suitable herbicides including the herbicide metolachlor. The teaching of Gillespie clearly discloses glyphosate and glyphosate salts as especially preferred herbicides for use in the disclosed plant treatment compositions in column 10, lines 15-44.

In column 3, lines 44-49, the teaching of Gillespie discloses exemplary first excipients including  $C_{1-4}$  alkyl esters of a  $C_{12-18}$  fatty acid, preferably  $C_{1-4}$  alkyl esters of a  $C_{12-18}$  saturated fatty acid. The teaching of Gillespie provides a further description of first excipients in column 13, lines 8-24.

Beginning in column 5, line 45, the teaching of Gillespie discloses suitable second excipients that may be used in the disclosed plant treatment compositions with preferred classes of second excipients comprising amphiphilic substances having a chemical structure as shown by formula I, II, III, IV and VI in columns 6 and 7. The teaching of Gillespie provides a further description of second excipients from column 13, line 25 to column 15, line 55.

**b. The Select Pages From The Agrochemicals Handbook**

A description of the select pages from The Agrochemical Handbook may be relied upon above.

**2. The Obviousness Rejection Based on Gillespie and the Select Pages From The Agrochemicals Handbook**

Appellants respectfully submit that the proposed combination of the teaching of Gillespie with the select pages from The Agrochemical Handbook, taken alone or in view of the general state of the art, would not have motivated one skilled in the art to formulate a herbicidal composition comprising (a) at least one acetamide selected from metolachlor and S-metolachlor,

and (b) a synergistically active amount of a lipophilic additive comprising at least one member selected from the group consisting of stearic acid, stearyl alcohol, and hydrocarbon fluids containing greater than 50 wt.% paraffins as recited in independent claim 1.

Like the teaching of Agbaje, the teaching of Gillespie does not suggest to one skilled in the art to select metolachlor from the disclosed list of possible exogenous chemicals, and subsequently combine the selected metolachlor with a synergistically active amount of a lipophilic additive as recited in Appellants' claim 1.

The July 08, 2009 final Office Action relies on the disclosure of ISOPAR<sup>TM</sup> V (isoparaffinic oil) and ORCHEX<sup>TM</sup> 796 (paraffinic oil) as possible excipients in the Table from column 40, line 36 to column 23, line 43 of the teaching of Gillespie for support that the teaching of Gillespie suggests to one skilled in the art to formulate a herbicidal composition comprising (i) metolachlor, and (ii) ISOPAR<sup>TM</sup> V or ORCHEX<sup>TM</sup> 796. Appellants disagree.

The teaching of Gillespie suggests the possible use of ISOPAR<sup>TM</sup> V or ORCHEX<sup>TM</sup> 796 in combination with a glyphosate IPA salt, and one or more additional components. However, there is no suggestion in any of the examples of adding metolachlor or S-metolachlor to the disclosed exemplary compositions of Gillespie. There simply is no suggestion anywhere in the teaching of Gillespie, including the examples, that would have guided one skilled in the art to (1) select metolachlor from the disclosed list of exogenous chemicals, and then (2) combine the selected metolachlor with a synergistically active amount of a lipophilic additive.

Further, while the teaching of Gillespie suggests the possible use of ISOPAR<sup>TM</sup> V or ORCHEX<sup>TM</sup> 796 in combination with a glyphosate IPA salt, and one or more additional components, a closer examination of the totality of the teaching of Gillespie provides guidance to one skilled in the art to steer away from the use of ISOPAR<sup>TM</sup> V or ORCHEX<sup>TM</sup> 796, and instead utilize a fatty acid ester (i.e., a first excipient which is an essential component in Gillespie's invention). For example, in column 38, lines 42-45, Gillespie specifically states the following regarding the test results of Example 6, and using butyl stearate versus ORCHEX<sup>TM</sup> 796:

Significantly greater herbicidal effectiveness was obtained with compositions using butyl stearate as the oil (6-02, 6-05, 6-08) than with counterparts using Orchem 796 (6-01, 6-04, 6-07).

In column 40, lines 30-32, Gillespie specifically states the following regarding the test results of Example 7, and using butyl stearate versus ORCHEX™ 796:

Many compositions having butyl stearate as the oil showed greater herbicidal effectiveness than their counterparts having Orchex 796 as the oil.

Further, in column 52, lines 54-57, Gillespie specifically states the following regarding the test results of Example 12, and using a fatty acid ester versus ISOPAR™ V or ORCHEX™ 796:

Compositions of this Example where the oil was not a fatty acid ester (12-05, 12-06, 12-15, 12-16, 12-18, 12-19) were less herbicidally effective than those containing a fatty acid ester.

In column 112, lines 46-51, Gillespie specifically states the following regarding the test results of Example 41, and using butyl stearate versus ORCHEX™ 796:

When added to Neodol 1-9, butyl stearate was more efficacious than methyl stearate, methyl oleate or butyl oleate. The mineral oil Orchex 796 did not substitute effectively for butyl stearate, either with oleth-20 or with Neodol 1-9.

Given the above disclosure in the teaching of Gillespie, Appellants respectfully submit that one skilled in the art would have been guided to utilize a fatty acid ester, such as butyl stearate, not ISOPAR™ V or ORCHEX™ 796 as suggested in the July 08, 2009 final Office Action.

It is not clear to Appellants why one skilled in the art, given the above-noted disclosure in the teaching of Gillespie, would utilize ISOPAR™ V or ORCHEX™ 796 instead of a fatty acid ester as an excipient in the plant treatment compositions of Gillespie. Appellants respectfully submit that to do so ignores the principle teaching of Gillespie. Appellants respectfully submit that the selection of ISOPAR™ V or ORCHEX™ 796 instead of a fatty acid ester ignores the principle of operation of the teaching of Gillespie. The Federal Courts have frowned on such a proposed modification of the prior art. As stated by the Court in *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959), “If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.”



Moreover, like the teaching of Agbaje, the teaching of Gillespie in combination with the select pages from The Agrochemicals Handbook, and an understanding of the general state of the art, fails to recognize the unexpected, synergistic benefits associated with Appellants' claimed herbicidal compositions recited in independent claim 1 for at least the reasons provided above in Section I(A)(2). As discussed above, Appellants were the first to recognize the unpredictable benefits resulting from the addition of a synergistically active amount of a lipophilic additive to an acetamide herbicide (e.g., the ability to reduce the concentration of an acetamide herbicide in a given herbicidal composition while retaining the effectiveness of the given herbicidal composition to control weeds, and the unexpectedly broadened activity spectrum of the resulting herbicidal composition against weeds compared to herbicidal compositions containing only the acetamide herbicide).

The art of record, as well as the general state of the art, fails to teach or suggest Appellants' claimed invention as recited in Appellants' independent claim, as well as fails to recognize the unexpected, synergistic benefits of Appellants' claimed invention as recited in Appellants' independent claim 1. For at least these reasons, the art of record fails to make obvious Appellants' claimed invention as recited in Appellants' independent claim 1.

Regarding the proposed combination of the teaching of Gillespie with the select pages from The Agrochemicals Handbook, it should be noted that, like the teaching of Agbaje, the teaching of Gillespie does not provide any guidance to one skilled in the art to (1) focus on metolachlor instead of the other disclosed herbicides, (2) seek out the select pages of The Agrochemicals Handbook relating to metolachlor when The Agrochemicals Handbook contains 1500 pages relating to hundreds of herbicides, (3) utilize metolachlor instead of another herbicide within the hundreds of water-insoluble herbicides disclosed in The Agrochemicals Handbook, or (4) combine metolachlor with a synergistically active amount of a lipophilic additive. The only motivation to focus on metolachlor, and not the other herbicides disclosed in the teaching of Gillespie, has been gleaned from Appellants' own specification, not from the art of record. For at least this reason, Appellants respectfully submit that the proposed combination of the teaching of Gillespie with the select pages from The Agrochemicals Handbook is improper.

For at least the reasons given above, Appellants respectfully submit that a *prima facie* case of obviousness has not been made with regard to the rejection of independent claim 1

in view of the proposed combination of the teaching of Gillespie with the select pages from The Agrochemicals Handbook. Since claims 4, 9, 11-14, 16 and 18-23 depend from independent claim 1 and recite additional claim features, the proposed combination of the teaching of Gillespie with the select pages from The Agrochemicals Handbook also fails to make obvious Appellants' claimed invention as embodied in dependent claims 4, 9, 11-14, 16 and 18-23. Accordingly, reversal of the rejection of claims 1, 4, 9, 11-14, 16 and 18-23 under 35 U.S.C. §103(a) in view of the teaching of Gillespie in combination with the select pages from The Agrochemicals Handbook is respectfully requested.

**CONCLUSION**

For at least the reasons given above, Appellants respectfully submit that the art of record in combination with a general understanding of the art fails to make obvious the claimed invention as embodied in Appellants' claims 1-2, 4, 9, 11-16, 18-25 and 41. Accordingly, it is respectfully submitted that each of the above rejections should be reversed.

Please charge any additional fees or credit any overpayment to Withers & Keys, LLC, Deposit Account No. 503025.

Respectfully submitted,

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**CLAIMS APPENDIX**

1. A herbicidal composition, comprising:
  - a) at least one acetamide selected from metolachlor and S-metolachlor; and
  - b) a synergistically active amount of a lipophilic additive comprising at least one member selected from the group consisting of stearic acid, stearyl alcohol, and hydrocarbon fluids containing greater than 50 wt.% paraffins.
2. The herbicidal composition of claim 1 wherein the ratio (wt/wt) of a) to b) is 90:1 to 1.5:1.
4. The herbicidal composition of claim 1 wherein the acetamide comprises a mixture of the (S) and (R) isomers of metolachlor in the ratio of 50-100% (S) to 50-0% (R).
9. The herbicidal composition of claim 1 wherein the hydrocarbon fluid contains less than 2.0 wt.% aromatic component.
11. The herbicidal composition of claim 1 wherein 50-100% wt.% of the paraffins present in the hydrocarbon fluid are iso-paraffins.
12. The herbicidal composition of claim 11 wherein 90-100% wt.% of the paraffins present in the hydrocarbon fluid are iso-paraffins.

13. The herbicidal composition of claim 1 wherein at least 95 wt.% of the carbon structures of the hydrocarbon fluids have a carbon number distribution of from C13 to C20.
14. The herbicidal composition of claim 1 wherein the hydrocarbon fluid comprises a synthetic iso-paraffin fluid.
15. The herbicidal composition of claim 1 further comprising a safener.
16. The herbicidal composition of claim 1 further comprising a co-herbicide.
18. A method of controlling undesired plant growth in the presence of cultivated plants, which comprises treating the cultivated plants, plant parts, seed or the locus thereof with a herbicidally effective amount of the herbicidal composition according to claim 1.
19. The method according to claim 18, wherein the cultivated plants are selected from the group consisting of cereals, rape, sugar beet, sugar cane, rice, maize, plantation crops, soybeans and cotton.
20. The method of claim 18 wherein the cultivated plants comprise transgenic plants or herbicidally tolerant plants created by conventional breeding.

21. The method according to claim 18 wherein the herbicidally effective amount of the composition is applied to the soil as a preemergent herbicide.

22. The method of claim 18, which further comprises treating the cultivated plants, plant parts, seed or the locus thereof with a co-herbicide.

23. The method of claim 22, which comprises treating the cultivated plants, plant parts, seed or the locus thereof at separate times with the herbicidal composition and the co-herbicide.

24. The method of claim 18, which further comprises treating the cultivated plants, plant parts, seed or the locus thereof with a safener.

25. The method of claim 24, which comprises treating the cultivated plants, plant parts, seed or the locus thereof at separate times with the herbicidal composition and the safener.

41. A herbicidal composition, comprising:

- a) metolachlor or S-metolachlor;
- b) a synergistically active amount of isoparaffinic hydrocarbon fluid, stearic acid or stearly alcohol; and
- c) benoxacor.

**EVIDENCE APPENDIX**

None

**RELATED PROCEEDINGS APPENDIX**

None